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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/778,759 02/08/01 NAKAJIMA

Y 040356/0354

MMC2/0509

FOLEY & LARDNER  
WASHINGTON HARBOUR  
3000 K STREET, N.W., SUITE 500  
P.O. BOX 25696  
WASHINGTON DC 20007-8696

EXAMINER

GONZALEZ, J

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

05/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/778,759

Applicant(s)

NAKAJIMA, YUKI

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-11 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2001 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 02/08/01. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: rotor 91. Correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, applicant discloses in claim 5 that the coils are disposed on the inner side of the stator and in claim 6 on the outer side of the stator. How can the coils be at two different places of the stator?

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1-3, 5-8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al.

Suzuki et al discloses a magnet pole position detector for a rotor that has a plurality of magnets and rotates with a rotation shaft 115, comprising: plates of the same number as the magnets, each of the plates being disposed on the rotor at a position along a circular path nearby a corresponding magnet and magnetized by leakage flux of the corresponding magnet; and a magnetic sensor (column 3, lines 31, 32) outputting a signal in response to a variation of a magnetic flux on the circular path. Also, the plates are fixed to an end face of the rotor along the shaft and the stator has a plurality of coils 120 and core retains the magnets and the plates are fixed to the rotor core (see figure 2).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Kazama et al.

Suzuki et al discloses a magnet pole position detector for a rotor that has a plurality of magnets and rotates with a rotation shaft 115, comprising: plates of the same number as the magnets, each of the plates being disposed on the rotor at a position along a circular path nearby a corresponding magnet and magnetized by leakage flux of the corresponding magnet; and a magnetic sensor (column 3, lines 31, 32) outputting a signal in response to a variation of a magnetic flux on the circular path. Also, the plates are fixed to an end face of the rotor along the shaft and the stator has a plurality of coils 120 and core retains the magnets and the plates are fixed to the rotor core (see figure 2).

However, Suzuki et al does not disclose that the plates are fixed to the rotor core via a non-magnetic plate.

On the other hand, Kazama et al discloses for the purpose of detecting complicated signals due to changes in the magnetic field of the rotor and the stator teeth that the plate 7b is fixed to the rotor via a non-magnetic plate 6.

It would have been obvious to one having ordinary skill in the art to design a rotor with a shaft, magnet and a sensor as disclosed by Suzuki et al and to include a non magnetic material between the core and the end plates for the purpose of detecting complicated signals due to changes in the magnetic field of the rotor and the stator teeth as disclosed by Kazama et al.

Art Unit: 2834

9. Claim 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al in view of Masuzawa et al.

Suzuki et al discloses a magnet pole position detector for a rotor that has a plurality of magnets and rotates with a rotation shaft 115, comprising: plates of the same number as the magnets, each of the plates being disposed on the rotor at a position along a circular path nearby a corresponding magnet and magnetized by leakage flux of the corresponding magnet; and a magnetic sensor (column 3, lines 31, 32) outputting a signal in response to a variation of a magnetic flux on the circular path. Also, the plates are fixed to an end face of the rotor along the shaft and the stator has a plurality of coils 120 and the core retains the magnets and the plates are fixed to the rotor core (see figure 2).

However, Suzuki et al does not disclose that the magnets comprise a pair of magnet components that have equal polarity.

On the other hand, Masuzawa et al discloses for the purpose of changing the magnetic fluxes per magnetic pole freely without changing the position that the magnets comprise a pair of magnet components that have equal polarity (see figure 8A).

It would have been obvious to one having ordinary skill in the art to design rotor with a shaft, magnet and a sensor as disclosed by Suzuki et al and to include in each magnet a pair of magnets for the purpose of changing the magnetic fluxes per magnetic pole freely without changing their position as disclosed by Masuzawa et al.

Art Unit: 2834

***Allowable Subject Matter***

10. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

May 4, 2001

  
**ELVIN ENAD**  
**PRIMARY EXAMINER**  
Art 2834  
5/3/01